Memo:
Date: 11/22/98
To: Ron Ott, Dave Fullerton
From: Tom Cannon

Subject: Comments on EWA paper 11/19/98 based on review of all notes on EWA from DNCT and DEFT discussions of EWA.

Default Operating Rules

1. Baseline protection is for ESA assurances for direct and indirect export (entrainment) impacts not ecosystem protection. These new standards were developed to target ESA direct and indirect entrainment effects - though they may have ecosystem wide benefits.

Environmental Water Account

2. Suggested application under Scenario A1: The EWA should be associated with movement away from either the ACCORD or ACCORD+AFRP (Delta and/or Ustream), not new stricter standards. For example, EWA should not be tied to movement away from a 60 day VAMP (though EWA may pay for extra 30 days). Scenario A1's standards should not be the baseline for the EWA as stated. EWA water under A1 could come from relaxing the existing E/I and allowing SWP to pump more than 6,000, plus half of new water supplies. Cost of new standards (from Accord) could be debited against EWA.

What are the Environmental Credits?

3. Credits are simply the amount of water from "real" relaxation of E/I standard, water pumped at SWP in excess of 6,000 cfs, and any fixed or variable amount of water "donated" to the account at the beginning of the account year. "Real" water is that which would have been exported or could have been exported - conflicts may arise over whether water generated is "real" or whether it should be generated in the first place.
4. Credits can be in the form of different currencies: GW, San Luis vertical or horizontal, upstream reservoir vertical or horizontal, simple export reduction notes, general credits with no ties, etc.
5. The EWA could also function under a debt system, where export reductions could be purchased by acquiring debt that would be later paid through futures on exports above standands or using extended Banks, or later use of EWA stored water. Collateral would be futures or real water held in EWA storage. Payment on debt would be determined whether actual water cost was incurred from the "loaned"

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export reduction.

How are Credits Aquired?

6. The EcoManager directs the relaxation of a standard either upon receipt of request from water users or from his own initiative to store EWA water. In either case he must believe impacts to env are minimal to relax standards.
7. Clarification of how credits may be purchased - purchasing water that is sitting in storage or water that would be exported to some storage, in which place it could be purchased and stored for EWA where it was headed (e.g. San Luis, East Side) or sent to EWA storage somewhere else.
8. In the case where water users want the extra water, they will have to provide the credits in some currency such as water futures. Only real conflict here is if the water users need the water badly and EcoManager is not willing to part with it.
9. In the case where EcoManager wants the water for the EWA, then he will have to have some place to put it or find someone who wants it and is willing to trade something for it. Conflict here is if the EcoManager can't find a "buyer", has no place to put water, or has no way to get the water there, which could limit his ability to place water in the account. The EWA would need some guarantees as to access to storage and conveyance facilities and whether the account is maintained vertically or horizontally in storage. If water is abundant and San Luis will be easily filled, the projects will be hard pressed to allow extra Banks pumping or relaxed E/I water to be stored in project facilities.
10. Credits could also be obtained from "donations" or annual allotments that would form a base for the EWA.
11. Credits could also be obtained from sharing water supply generated from new NNG facilities (e.g., JPOD, Delta Wetlands).

How are Credits Held?

12. EWA credits generated from relaxed E/I or expanded Banks could be stored in the form of SOD storage as defined by Lester in the form of vertical storage in San Luis and/or maintained as vertical or total storage in a GW bank if delivered in that manner.
13. EWA credits would be as large as the amount of potential EWA storage available SOD, which would likely vary with season and year.
14. Credits (whether generated or purchased) could be held simply as notes against future export reductions.
15. EWA credits could be traded for storage water in upstream facilities such as Shasta reservoir.
16. Credits need not be held; they can be simply used in the form of

How would Credits be Used to Affect Operations?

17. Credits could be used to pay cost of new standards (including AFRP actions).
18. Credits could be used to forego export pumping either directly traded or used as collateral in loans from projects. If credits are held in San Luis, this may be a simple proposition; however, if held in general form, export reduction requests on contractors may result in conflicts. There may be less conflict if forgone exports could be held in upstream storage for later export. In this case there could be a conflict as to whether a debt to the EWA should be incurred. As George pointed out, it may be difficult to get CVP contractors to accept credits for reducing Tracy exports.
19. Credits could be used to increase river flows and/or Delta inflow and outflow. For example, EWA held in Shasta could simply be released to provide river flow and Delta inflow and outflow.

How would Water User Interests be Protected?

20. Water users and project operators should have some say as to whether export reductions requested by the Ecomanager are reasonable.
21. Water users and project operators should also have some say as to whether export increases requested by the Ecomanager are consistent with effective operation of storage and conveyance facilities.

What is Negotiable?

1. Default operational rules: new standards were not meant to be included. Accord + AFRP was default. There was some question about In-Delta AFRP being included or not.
2. Sharing factors: water supply from new NNG actions (proposed 0 for A1 and 50% C and E)).
3. Sharing Factors: relaxing E/I (proposed 100%); expanded Banks (proposed 50-100%).
4. Priority for Storage and Conveyance: discussed "when available", but could be more.
5. Decision to deviate from "rules": Discussed Ecomanager only for EWA relaxation of E/I, and possibly allowing extended Banks. Deviation from "new" standards such as 61-day VAMP is made by ESA agencies and has nothing to do with EWA (unless cost is absorbed by EWA).
6. Degree of regulatory certainty: assurances and certainty were deemed greater by DEFT the larger the size of the EWA (400-500 TAF were said to be good).
7. Who pays: DNCT discussed proportional to amount or percentage received from new NNG actions. Did not discuss cost/charges to EWA for pumping, conveying, storing, or releasing EWA water.

8. Effects on water user supplies from EWA: Assumed no cost or some benefits to water users from generating water into the EWA. Teams had little discussion of potential conflicts and costs from using EWA other than George's comment about concern for making up any loss of CVP pumping, and Jim Snow's comment on the limitations of San Luis.

Other Needs:

9. Targets and priorities for where to generate EWA water. (Vary with year and season.)
10. Targets and priorities for using EWA water. (Vary with year and season.)
11. Triggers for flexing E/I upward (relaxing) or allowing extended Bank pumping. (Vary with year and season.)
12. Triggers for applying EWA water (e.g., flexing E/I upward - more restrictive, extending VAMP) (Vary with year and season.)
13. Triggers for turning off actions funded by EWA to ensure against wasting too much water. (Vary with year and season.)
14. Constraints on specific facilities (e.g., using Tracy pumping plant and San Luis for EWA) (Vary with year and season.)
15. Constraints on use to protect WQ. (Vary with year and season.)
16. Constraints on use to protect environment (e.g., use of Shasta storage and protection of cold water pool for winter run chinook). (Vary with year and season.)
17. Rules for EcoManager to operate from. (Vary with year and season.)
18. Consider loans to and from the EWA, with and without collateral; and rules for payment.
19. Define base deposit (water, storage, and conveyance) each year to EWA - "donation" up front. (Vary with year and season.)
20. Define cost of purchasing options.
21. Define No-Harm rule.
22. Can export restrictions be better tied to reduced storage release to save water supply; and can these generate additional upstream credits.
23. Need for different accounts and credit types (currencies).
24. Review DWR simulations of EWA concept.
25. Conduct gaming simulations or EWA in monthly and daily models.
26. Define phased approach to use of EWA with first line being purchase of options; second line being use of annual storage in SOD reservoirs, and third line (last line of defence) using dedicated GW storage.
27. Employing EWA for ecosystem purposes (e.g., outflow, habitat)
28. Do we apply EWA to new fixed standards or to flex operations or both.